CHAPTER ③ Coding & Decoding

A code is a 'system of signals'. This means a coding is a method of transmitting a message between the sender and the receiver without a third person knowing it.

The coding and decoding test is set up to decipher the rule that codes a particular word/message and break the code to decipher the message.

Ex. If the word APPLE be written by reversing the order of alphabets, then it would transform into ELPPA, that means the word APPLE has been coded into ELPPA

$$APPLE \xrightarrow{\text{coding}} ELPPA$$

and writting ELPPA again in the form APPLE using the same rule (i.e. reversing the order of alphabets) is known as decoding.

$$ELPPA \xrightarrow{\text{decoding}} APPLE$$

3.1 Number/symbol coding

In these questions, either numerical code values are assigned to a word or alphabetical code letters are assigned to the numbers. The candidate is required to analyse the code as per the questions.

The letters and numbers would be correlated to each other in either of the following ways :

(1)   Direct coding.

(2)   In relation to the position of letters in English alphabet.

(3)   As per a given set of rules.

1. Direct coding

Solved examples

Ex.1 In a certain code, 1 is coded as S, 7 as E, 9 as H, 6 as L, 0 as T and 2 as O. How is 921076 coded in that letter?

(1)   HOSTLE   (2) HOSTEL   (3) HOSLET   (4) TOSHEL

Sol.

Number 1 7 9 6 0 2
Code   S E H L T O

So, Number 9 2 1 0 7 6
     Code   H O S T E L

Hence (2) is the answer.

Ex.2 In a certain code, if TREE is coded as 7100, FROG as 2159, how is FREE coded in that code?

(1)   2100   (2) 3100   (3) 1003   (4) 1002

Sol.

Number T R E E   F R O G
Code   7 1 0 0   2 1 5 9

So, FREE is coded as 2100

Hence (1) is the answer.

Ex.3 In a certain code, RAIN is written as 8 $%6 and MORE is written as 7 #8@. How is REMAIN written in that code?

(1) #@7 $%6   (2) #@& $%6   (3) 7@#$%6   (4) 8@7$%6

(E) None of these

Sol.

Letters	R	A	I	N	M	O	E
Code	8	$	%	6	7	#	@

(arrows connecting each letter to its code)

Thus, the code for REMAIN is 8@7$%6. Hence (4) is the answer.

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2. In relation to the position of letters in english alphabet

There are 26 letters in the english alphabet. If it is asked to count from the left, then it is begun to count from A and if it is asked to count from the right then it is begun from Z.

Now to remember the number of positions of letters in the alphabet from the left as well as right, we have the formula EJOTY and BGLQV

$$E \rightarrow J \rightarrow O \rightarrow T \rightarrow Y$$
$$5 \quad 10 \quad 15 \quad 20 \quad 25$$

It means E in the alphabet from the left is at 5th place, J at 10th place, O at 15th place, T at 20th and Y at 25th place.

Another formula is

$$B \leftarrow G \leftarrow L \leftarrow Q \leftarrow V$$
$$25 \quad 20 \quad 15 \quad 10 \quad 5$$

to remember the number of position of a letter in the alphabet from right i.e. from Z to A.

Solved examples

Ex.4 If BOOK is coded as 43, what will be the code number for PEN ?

(1) 53   (2) 33   (3) 35   (4) 43

Sol. In the given code, it can be seen that the word BOOK has been coded as the sum of the position corresponding to the letters of the word BOOK. (using the formula EJOTY)

i.e.
$$B \rightarrow 2$$
$$O \rightarrow 15$$
$$O \rightarrow 15$$
$$K \rightarrow \underline{11}$$
$$43 \text{ (On adding)}$$

Hence, (3) is the answer.

Ex.5 If GO = 32, SHE = 49, then SOME will be equal to –

(1) 56   (2) 58   (3) 62   (4) 64

Sol. Using the pattern,

$$B \quad G \quad L \quad Q \quad V$$
$$25 \quad 20 \quad 15 \quad 10 \quad 5$$

The word Go can be

Coded as

$$G \quad O$$
$$20 + 12 = 32$$

and SHE as

S   H   E
↓   ↓   ↓
8 + 19 + 22 = 49

Similarly, SOME can be coded as

S   O   M   E
↓   ↓   ↓   ↓
8 + 12 + 14 + 22 = 56

Hence, (1) is the answer.

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3. As per a given set of rules

Solved examples

Ex.6 Study the following letters and their corresponding digit codes followed by certain conditions of coding and answer the questions given below then by finding out the coded form of the letter-groups given in each question and mark your answer accordingly.

Letter	P	N	A	J	I	R	E	B	U	K
Digit Code	5	3	9	1	4	6	2	7	0	8

Condition :

(i) If both the first and the last letters in the group are vowels, both should be coded as $.

(ii) If both the first and the last letters in the group are consonants, both should be coded as #.

1   RBUKAE

(1) # 70892   (2) 670892   (3) 670982   (4) 607892

2   KUNAJB

(1) 803917   (2) 0391 (3) #0391#   (4) #0391$

3   EBNAPI

(1) 273954   (2) 7395.   (3) #7395#   (4) $7395#

Sol.1. Clearly, the given letter group begins with a consonant and ends with a vowel. So, each letter must be replaced by individual digit code. Thus, the desired code is 670892

Hence, (2) is the answer

2. Clearly, the given letter-group begins with a consonant and also ends with a consonant. So, each of the first and last letters must be coded as # while the middle four letters must be replaced by individual digit codes. Thus, the desired code is #0391#.

Hence, (3) is the answer.

3. Clearly, the given letter-group begins with and also ends with a vowel. So, each of the first and last letters must be coded as $ while the middle four letters must be replaced by individual digit codes. Thus, the desired code is 7395.

Hence, (2) is the answer.

EXERCISE

Directions (Q.1 & Q.2) : In a certain language, 36492 is written as SMILE and 058 is written as RUN. How are the following figures coded in that language ?

1. 33980

   (1) SSLNR   (2) SSLRN   (3) SLSNR   (4) None of these

2. 6458

   (1) MUIN   (2) MINU   (3) INUM   (4) MIUN

3. If GIVE is coded as 5137 and BAT is coded as 924, how is GATE coded ?

   (1) 5427   (2) 5724   (3) 5247   (4) 2547

4. If a certain code 5234 is written as RING and 6109 as FAST, how will 095234 be written ?

   (1) STRNIG   (2) NGRIST   (3) STRING   (4) STRIGN

5. How will you code ACCOMMODATE if S and V are coded as 8 and 5 respectively ?

   (1) 26-24-24-12-14-14-23-22-26-7-21   (2) 26-24-24-12-14-14-12-26-7-22

   (3) 2-25-25-12-14-14-23-26-22-21-7   (4) 26-24-12-14-14-23-21-26-22-12-7-21

6. If in code language, digits are used for the letters according to the following code.

   <div align="center">

   D I N E S H K U

   8 2 5 1 7 4 9 3

   </div>

   What number will represent word 'S H K N U D I' ?

   (1) 7453298   (2) 7493582   (3) 7495238   (4) 7495382

7. In a certain code, BRAIN is written as ★%÷#× and TIER is written as $#+%. How is RENT written in that code ?

   (1) %×#$ (2) %#×$ (3) %+×$ (4) +×%$

8. In a certain code, STRING is written as % = ★−$÷ and PRAISE as ?★ @−%×. How will the word GRAPES be written in that code?

   (1) ÷★@×?%   (2) ÷@★?×%   (3) ÷★@?×%   (4) ÷★−?×%

9. In a certain code, DESK is written as #$85, and RIDE is written as %4#$. How is RISK written in that code ?

   (1) %758   (2) %485   (3) %4#5   (4) %4$#

10. In a certain code, ORDER is written as ×÷$#÷and BOARD is written as ✹×%÷$. How is ADOBE written in that code?

   (1) %✹×$ (2) ✹×$#÷   (3) %✹×$÷   (4) %$×✹#

11. In a certain code if RUBI is coded as 7298 and THILAK is coded as 368451, how can BHARATI be coded in that code?

(1) 9567568   (2) 9675538   (3) 9657538   (4) 7659538

12. In a certain code, TEA is written as 831 and CHAIR is written as 24156. What will TEACHER be written in that code?

(1) 4632138   (2) 8216343   (3) 8312436   (4) 3138426

13. If in a code, PAINT is written as 74128 and EXCEL is written as 93596, then how will ACCEPT be written in that code?

(1) 455978   (2) 784591   (3) 736968   (4) 545978

14. If C = 3, CUP = 40, then the word CORE would be

(1) 36   (2) 41   (3) 42   (4) 50

15. If A = 1, BAR = 21, then ABROAD = ?

(1) 30   (2) 41   (3) 42   (4) 50

16 If ROSE is coded as 6821, CHAIR is coded as 73456 and PREACH is coded as 961473, then what will be the code for SEARCH?

(1) 246173   (2) 214673   (3) 214763   (4) 216473

17. If AT = 20, PAN = 224, then CAR will be

(1) 22   (2) 54   (3) 50   (4) 24

Directions (Q. 18 to Q.20): The digit codes of each letter is given below. You have to decode the word as per number given.

Letter	A	B	C	D	E	F	G	H	I	J	K	L
Digit Code	2	4	6	8	10	12	14	16	18	20	22	24

M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
26	28	30	32	34	36	38	40	42	44	46	48	50	52

18. 14183624

(1) GURL   (2) GIRL   (3) PURL   (4) KORE

19. 81024250.

(1) DECAY   (2) DECOR   (3) DELAY   (4) DARK

20. 38321010616

(1) SPOKE   (2) STROK   (3) STRIKE   (4) SPEECH

BRAIN TEASERS

21. If MACHINE is coded as 19-7-9-14-15-20-11, how will you code DANGER ?

(1) 10-7-20-13-11-24

(2) 11-7-20-16-11-24

(3) 13-7-20-9-11-25

(4) 13-7-20-10-11-25

22. If TOM = 48 DICK = 27, then HARRY = ?

(1) 46

(2) 50

(3) 70

(4) 67

23. If "MANGO" = 20 and "ORANGE" = 30, then what is the value of "PINEAPPLE"?

(1) 69

(2) 78

(3) 50

(4) 64

24. If "SQUARE" = 87 and "RECTANGLE" = 94, then what is the value of "ROMBUS" ?

(1) 96

(2) 94

(3) 89

(4) 68

25. If 3 > 2 = 31, and 4 > 3 = 283, then 1 > 2 =

(1) 16

(2) 36

(3) 14

(4) 5

ANSWERS

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Ans.	1	4	3	3	2	4	3	3	2	4	3	3	1	2	2	2	2	2	3	4
Que.	21	22	23	24	25															
Ans.	1	3	4	2	4															

3.2

Letter coding

In these questions, the letter in a word are replaced by certain other letters according to a specific rule to form its code. The candidate is required to detect the coding pattern/rule and answer the questions accordingly.

The letters and codes would be related to each other in either of the following ways :–

(1) Direct coding.

(2) Movement of letters relative to their position in English alphabet.

(3) Reordering of letters.

1. Direct coding

In direct coding particular letters are made codes for particular letters without there being any set pattern. In direct coding, the code letters occur in the same sequence as the corresponding letters occur in the words.

In questions on direct coding, either the particular codes of letters are given or the codes of two or more words are given and one is asked to find the codes of given words involving only those letters for which the codes have already been mentioned.

Solved examples

Ex.1 If in a certain code, O is written as E, A as C, M as I, S as O, N as P, E as M, I as A, P as N and C as S, then how will COMPANIES be the written in that code?

(1) SMINCPAMO (2) SEIACPAMO (3) SEINCPAMO (4) SEINCPMIO

Sol.
$$\begin{array}{ccccccccc} C & O & M & P & A & N & I & E & S \\ \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow \\ S & E & I & N & C & P & A & M & O \end{array}$$

Hence, (3) is the answer.

Ex.2 If the word EARTH be written as QPMZS in coded form, how can be HEART be written in that code?

(1) SQPZM (2) SQMPZ (3) SPQZM (4) SQPMZ

Sol. We have,

$$\begin{array}{ccccc} \text{Letter} & E & A & R & T & H \\ & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow \\ \text{Code} & Q & P & M & Z & S \end{array}$$

So the code for HEART becomes SQPMZ

Hence, (4) is the answer.

2. Movement of letters

In these questions, coding/decoding is done by moving the letters backward/forward relative to their positions in English alphabet.

Solved examples

Ex.3 If TOP is coded as SNO then how is FREEZE coded?

(1) EQDFYG (2) ESDFYF (3) GQFDYE (4) EQDDYD

Sol.
$$\begin{array}{ccc} T & O & P \\ -1\downarrow & -1\downarrow & -1\downarrow \\ S & N & O \end{array}$$

Clearly each letter in the word is moved one step backward to obtain the corresponding letter of code.

Thus, FREEZE will be coded as

$$\begin{array}{cccccc} F & R & E & E & Z & E \\ -1\downarrow & -1\downarrow & -1\downarrow & -1\downarrow & -1\downarrow & -1\downarrow \\ E & Q & D & D & Y & D \end{array}$$

Hence (4) is the answer.

Ex.4 In a certain code, SIKKIM is written as THLJJL. How is TRAINING written in that code?

(1) SQBHOHOH   (2) UQBHOHOF   (3) UQBJOHHO   (4) UQBJOHOH

Sol.

$$\begin{array}{cccccc} S & I & K & K & I & M \\ +1\downarrow & -1\downarrow & +1\downarrow & -1\downarrow & +1\downarrow & -1\downarrow \\ T & H & L & J & J & L \end{array}$$

Clearly, the letters in the world SIKKIM are moved alternately one step forward and then one step backward to obtain the letters of the code.

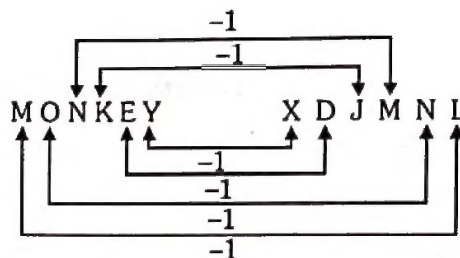Similarly, 'TRAINING' can be coded as
$$\begin{array}{cccccccc} T & R & A & I & N & I & N & G \\ +1\downarrow & -1\downarrow & +1\downarrow & -1\downarrow & +1\downarrow & -1\downarrow & +1\downarrow & -1\downarrow \\ U & Q & B & H & O & H & O & F \end{array}$$

Hence (2) is the answer.

Ex.5 In a certain code, 'MONKEY' is written in as XDJMNL, how is 'TIGER' written in that code?

(1) SHFDQ   (2) QDFHS   (3) SDFHS   (4) QDHJS

Sol.

i.e. the letter of word are first written in reverse order & then moved one step backward.
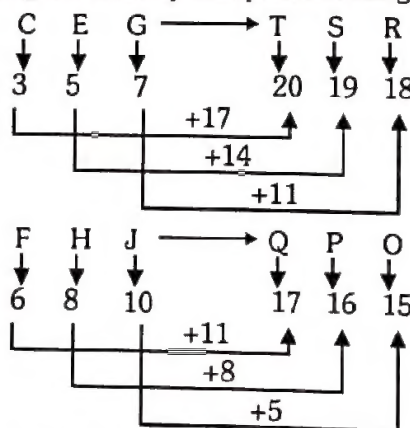
So, TIGER becomes REGIT and then
$$\begin{array}{ccccc} R & E & G & I & T \\ -1\downarrow & -1\downarrow & -1\downarrow & -1\downarrow & -1\downarrow \\ Q & D & F & H & S \end{array}$$

Hence (2) is the answer.

Ex.6 If CEG is written and TSR and FHJ is written as QPO, then IKM is written as –
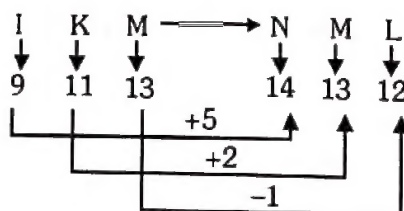
(1) NOP   (2) PON   (3) MLK   (4) NML

Sol. Let's decipher the code by denoting the letters by their positions using the formula EJOTY.

If we follow the sequence {17, 14, 11}, {11, 8, 5} the next three numbers would be {5, 2, – 1}

Here,

Hence, (4) is the answer.

3. Reordering of letters

In these questions, the alphabets used in the letter and code are same, but reordered using a fixed pattern.

Solved examples

Ex.7 In a certain code EXPLAINING is written as PXEALNIGNI, how is 'PRODUCED' written in that code?

(1) ORPUDDEC   (2) ROPUDECD   (3) ORPUDECD   (4) DORPDECU

Sol. To code the word 'EXPLAINING' the first three letter were written in reverse order, then the next two letters in reverse order, then the next two letters and finally the last three letters in reverse order.

EXP – LA – IN – ING

$\updownarrow$

PXE – AL – NI – GNI

Hence (1) is the answer.

Ex.8 In a code COURAGE is denoted by UOCREGA then JOURNAL is denoted in the same code by –

(1) UOJRLAN   (2) OUJRANL   (3) OJURANL   (4) UOJLANR

Sol.

C	O	U	R	A	G	E	$\leftrightarrow$	U	O	C	R	E	G	A
1	2	3	4	5	6	7		3	2	1	4	7	6	5

Similarly, JOURNAL can be coded as

1	2	3	4	5	6	7	$\leftrightarrow$	3	2	1	4	7	6	5
J	O	U	R	N	A	L		U	O	J	R	L	A	N

Hence (1) is the answer.

EXERCISE

1. If in a certain language PRACTICE is coded as PICCTRAE, how is 'FLAMES' coded in that code ?

    (1) FEMALS   (2) FALEMS   (3) FMELAS   (4) FALMES

2. If in a certain language FASHION is coded as FOISHAN, how is PROBLEM coded in that code ?

    (1) ROBLEMP   (2) PELOBRM   (3) PRBOELM   (4) RPBOELM

3. If in a certain code SCRIPT is written as TCQIQT., how will DIGEST be written ?

    (1) EIFETT   (2) TIHETT   (3) EIFERT   (4) EIHETT

4. In a certain code, COMPUTER is written as RFUVQNPC. How is MEDICINE written in the same code?

    (1) EOJDJEFM   (2) EOJDEJFM   (3) MFEJDJOE   (4) MFEDJIOE

5. If CLOCK is coded as KCOLC, how will STEPS be coded ?

    (1) SEPTS   (2) SPETS   (3) SPSET   (4) SPEST

6. If VICTORY is coded as YLFWRUB, how can SUCCESS be coded ?

    (1) VXEEIVV   (2) VXFFHVV   (3) VYEEHVV   (4) VYEFIVV

7. If in a certain code, HPEX is coded as KTIZ, then which word would be coded as LIFE?

    (1) IEBC   (2) IECB   (3) IBEC   (4) BICE

8. If PEOPLE is coded as PLPOEE, how is TREND coded ?

    (1) TREDN   (2) DNERT   (3) NDETR   (4) TNERD

9. If BOX is coded as CDPQYZ, what will be the last two letters of word in the same code for HERO ?

    (1) N , M   (2) M , N   (3) P, Q   (4) Q, P

10. If ' HBPQMNOT' stands for 'SUNDAY TO', how will you write 'YOU DO SO ' using coding scheme used for 'SUNDAY TO' ?

    (1) NTBQTHT   (2) NTBQTHB   (3) NTQBTHB   (4) NTQBTHT

11. If CARPENTER is coded as BAQPDNSEQ, what will be the first letter of word in the same code for SANJIV ?

    (1) N   (2) T   (3) R   (4) V

12. 'START = WALKA' and BUDPI = XZFMQ, how will you code 'STUPID'?

    (1) BAZMOE   (2) WAZMQF   (3) WAZMFQ   (4) BAZMQF

13. If GREEN is coded as FSDFM, what will be the last letter of the word in the same code for BLUE?

    (1) M   (2) R   (3) F   (4) T

14. If FULFNHW is the code for CRICKET, then EULGH is the code for which word ?

    (1) PRIDE   (2) BRIDE   (3) BLAGE   (4) BLIND

15. In a certain code language 'PAPER' is written as SDSHU. How the word 'PENCIL' can be written in the same code?

(1) QFODJS   (2) ODMBHK   (3) SHQFLO   (4) MBKAFI

16. If FASHION is written as 6A19H9O14, then POSITION will be written as :

(1) P15S9T9O14   (2) 16O19I20115N   (3) ONRHSHNM   (4) QPTJUPO

17. If PORTER is written as QNSSFQ, then BRIGHT would be written as :

(1) CQJFIS   (2) CNJHIS   (3) CQJFGS   (4) CNJHIU

18. In a certain code if BOMBAY is written as MOBYAB, then KAVERI can be written as :

(1) ERIKAV   (2) IREVAK   (3) VAKIRE   (4) IREVAK

19. In a certain code, 'CERTAIN' is coded as 'XVIGZRM'. How is 'MUNDANE' coded in that code?

(1) NFMWZMV   (2) VMZWMEN   (3) NFMWZMX   (4) NFMXZMV

20. In a certain code 'PROSE' is written as 'PPOQE'. How is 'LIGHT' written in that code?

(1) LIGFT   (2) LLGFE   (3) JIEHR   (4) LGGFT

BRAIN TEASERS

21. If MNPQWXFG stand for the word LOVE, then for which word do the letters IJBCUVFG stand?

(1) HOME   (2) HATE   (3) KITE   (4) WIFE

22. If 'CLIPOSE' stands for' MTDFBEG', how will you code 'POLICE'?

(1) FBTDMG   (2) FBTDME   (3) FBTDEM   (4) FTBDME

23. Which of the following words would correctly decode the word ZHOFRPH if the simple alphabet shifting code is used?

(1) ARTISTS   (2) COMPUTE   (3) MAILING   (4) WELCOME

24. In a certain for language PROCESSOR is coded as D4F3C5C1E1S1S1E3C6 then code for MONITOR is

(1) M1E3B7C3D5C5F3   (2) M1C5B7G2E4C5C6   (3) M1E3G7C3D5E3C6   (4) M1C5G2I2E4E3C6

25. If in any code language TARGET is coded as UYUCJN then which word is coded as VICTORY in that language ?

(1) UKZXJXR   (2) UKYXJDR   (3) UKYXJWD   (4) None

ANSWERS

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Ans.	3	2	1	1	2	2	1	4	3	1	3	2	3	2	3	2	1	3	1	4
Que.	21	22	23	24	25
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Ans.	2	1	4	3	1

3.3 Substitution

In these questions, some particular words are assigned certain substituted names. Then a question is asked that is to be answered in the substituted code language.

Solved examples

Ex.1 A 'train' is called 'bus', 'bus' is called 'tractor', 'tractor' is called 'car', 'car' is called 'scooter' 'scooter' is called 'bicycle', 'bicycle' is called 'moped', which is used to plough a 'field'?

    (1) Train   (2) Bus   (3) Tractor   (4) Car

Sol. A tractor is used to plough the field. But a tractor is called car so, a car will be used to plough the field. Hence (4) is the answer.

Ex.2 If 'sky' means 'sea', 'sea' means 'water', 'water' means 'air', 'air' means 'cloud' and 'cloud' means 'river', then what do we drink when thirsty?

    (1) Sky   (2) Air   (3) Water   (4) Sea

Sol. When we feel thirsty we drink water, sea' means 'water'. Thus one would drink sea. Hence (4) is the answer.

EXERCISE

1. If cook is called butler, butler is called manager, manager is called teacher, teacher is called clerk and clerk is called principal, who will teach in a class ?

    (1) Cook   (2) Butler   (3) Manager   (4) Clerk

2. If book is called watch, watch is called bag, bag is called dictionary and dictionary is called window, then what is used to carry the books ?

    (1) Dictionary   (2) Bag   (3) Book   (4) Watch

3. If eraser is called box, box is called pencil, pencil is called sharpener and sharpener is called bag, what will a child write with ?

    (1) Eraser   (2) Box   (3) Pencil   (4) Sharpener

4. If man is called girl, girl is called woman, woman is called boy, boy is called bulter and bulter is called rogue, then who serve in a restaurant ?

    (1) Butler   (2) Girl   (3) Man   (4) Rogue

5. If 'Cloud' is said 'Rain', Rain' is said 'Tree', 'Tree' is said 'Axe', 'Axe' is said 'House' and 'House' is said 'Mason', then from which of the following wood can be obtained?

    (1) Tree   (2) Rain   (3) Axe   (4) House

6. If air is called green, green is called blue, blue is called sky, sky is called yellow, yellow is called water and water is called pink, then what is the colour of clean sky?

    (1) Pink   (2) Sky   (3) Water   (4) Blue

7. If orange is called ghee, ghee is called soap, soap is called ink, ink is called honey and honey is called orange then which one of the following is used for cloth washing?

    (1) Honey   (2) Ghee   (3) Orange   (4) None of these

8. If dog is called cat, cat is called lion, lion is called ox, ox is called cock, cock is called elephant and elephant is called donkey then tell a farmer ploughs with which animal?

    (1) Dog   (2) Lion   (3) Donkey   (4) Cock

9. If student is called saint, saint is called thief, thief is called politician, politician is called duffer, duffer is called head, then tell who does the job of robbery during day & night?

    (1) Saint   (2) Thief   (3) Head   (4) Politician

10. If the animals which can walk are called swimmers, animals who crawl are called flying, those living in water are called snakes and those which fly in the sky are called hunters, then what will a lizard be called ?

    (1) Swimmers   (2) Snakes   (3) Flying   (4) Hunters

ANSWERS

Que.	1	2	3	4	5	6	7	8	9	10
Ans.	4	1	4	4	3	2	4	4	4	3

3.4 Deciphering message codes

In these type of questions, some messages are given in the coded language and the code for a particular word or message is asked. To analyse such codes, any two messages bearing a common word are picked up. The common code-word will thus represent that word. Proceeding similarly by picking up all the possible combinations of two, the entire message can be decoded and the codes for individual words found.

Solved examples

Ex.1 In a certain code, 'Kit Mit Fit' means 'I Am Laborious', 'Zit Rit Kit' means Laborious Is Dangerous and 'Sit Fit' Rit' means 'Dangerous Extremely Painful' then in that language what is code for 'Is'?

    (1) Kit   (2) Zit   (3) Rit   (4) Data inadequate

Sol. (i) 'Kit Mit Fit' means 'I Am Laborious'

(ii) 'Zit Rit Kit' means 'Laborious Is Dangerous'

(iii) 'Sit Fit Rit' means 'Dangerous Extremely Painful

In (i) and (ii), common word is 'Laborious' and the common code is 'Kit'.

⇒ 'Kit means 'Laborious'

Similarly, from (ii) and (iii), we can decipher' 'Rit' means 'Dangerous'

So, in (ii), the code left is 'Zit' and the word left is 'Is Hence, the code for 'Is' is 'Zit'

Hence (2) is the answer.

Ex.2 In a certain code '786' means 'bring apple me', '958' means 'cut green apple' and 645 means 'bring green fruit' then which one of the following is used for 'me'?

    (1) 8   (2) 6   (3) 7   (4) Data inadequate

Sol. (i) 786 means 'bring apple me'

(ii) 985 means 'cut green apple'

(iii) 645 means 'bring green fruit'

In (i) and (ii), common word is apple and the common code is 8

⇒ 8 means 'apple'

Similarly, from (i) and (iii), we can decipher' 6 means 'bring'.

Now, in (i) the word left is 'me' and the code left is 7

⇒ code for 'me' is 7.

Hence (3) is the answer.

EXERCISE

1. In a certain code language, '851' means' 'good sweet fruit; '783' means 'good red rose' and '341' means 'rose and fruit'. Which of the following digits stands or 'sweet' in that language ?
   (1) 8   (2) 5   (3) 1   (4) 3

2. In a certain code language, '134' means' 'good and tasty'; '478' means 'see good pictures' and '729' means 'pictures are faint'. Which of the following digits for 'see' ?
   (1) 9   (2) 2   (3) 1   (4) 8

3. In a certain code language '1 2 3' means 'hot filtered coffee' '3 5 6' means 'very hot day' '5 8 9' means 'day and night'. Which of the following numeral symbols stands for 'very' ?
   (1) 9   (2) 5   (3) 8   (4) 6

4. If in a certain code language - 'hupa chip fu pa' stands for 'Ram is very intelligent.' 'Chip hupa kupa tik' stands for ' Hari is very smart'. 'lik fu hupa' stands for 'Boy is intelligent. 'fu tik dop' stands for 'Smart and intelligent'. then which one of the following word is used for 'Hari'.
   (1) chip   (2) hupa   (3) fu   (4) kupa

5. If in a certain code language- 'Tom Kum Sud' means 'Dogs are barking'. 'Kum jo Mop' menas 'Dogs and horses'. 'Mut Tom Ko' means 'Donkeys are mad'. Which word in that language means 'barking'?
   (1) Ko   (2) Kum   (3) Jo   (4) Sud

6. In a certain code language 'kew xas huma deko' means' ;she is eating apples' 'kew tepo que' means 'she sells toys' and 'suil lim deko means 'I like apples'. Which words in the language means 'she' and 'apples'
   (1) 'xas' and 'deko'   (2) 'xas' and 'kew'   (3) 'kew' and 'deko'   (4) 'kew' and 'xas'

Directions (Q.7 to Q.11) : In a certain code 'Ding Dong Dang' means 'Attacking the enemy', 'Ping Pong Dong' means 'Enemy is retreating', Ding ping Mong' means 'Attacking and retreating.,

7. Which of the following codes stands for Enemy ?
   (1) Ding   (2) Dong   (3) Dang   (4) Cannot be determined

8. Which code stands for Attacking ?
   (1) Ding   (2) Dong   (3) Dang   (4) None of these

9. Which of code stands for Retreating ?
   (1) Ping   (2) Pong   (3) Dong   (4) Mong

10. Which code stands for And ?
    (1) Ding   (2) Ping   (3) Mong   (4) Pong

11. 'Enemy is attacking' would be written as
    (1) dong ding mong   (2) dong pang ding   (3) dong pong ding   (4) mong mong dong

Direction (Q.12 to Q.14) : In a code
(i) 1, 5, 9 means 'You better go'   (ii) 1, 6, 7 means 'better come here'
(iii) 5, 6, 7 means, 'you come here'   (iv) 1, 5, 6 means, 'better you here'
(v) 3, 7, 9 means, 'come and go'

12. To find the code for 'better' atleast which group is necessary ?
    (1) (i) and (ii)   (2) (iv) and (v)   (3) (iii) and (iv)   (4) (ii) and (v)

13. Which of the following is used for 'and' in the code ?
    (1) 6   (2) 9   (3) 3   (4) 7

14. Which of the following is used for 'go' in the code ?
    (1) 1   (2) 5   (3) 7   (4) None of these

15. In a certain code 'Run O Jam' means 'Hallo go quickly', 'Jam us Soo' means 'You also go' and 'tum run da' means 'Hallo come here' then which of the following word is used for 'quickly' in the code ?
    (1) run   (2) da   (3) Jam   (4) None of these

Direction (Q.16 to Q.18) : In a code

(i) 'Rip Lub Ja Pit' means 'kindly let me speak'

(ii) 'Sa Tik Lub' means 'Kindly go forward'

(iii) 'Pit Sun Ki' means 'Speak with example'

(iv) 'Ja Ha Tik' means 'Let Others Go'.

16. In the code what is for 'Example' ?

(1) Ke   (2) Pit   (3) Sun   (4) Data inadequate

17. In the code what is for 'Ha' ?

(1) Forward   (2) Kindly   (3) Go   (4) Others

18. To find the code for 'Me' which of the following statements are necessary ?

(1) Only (i) and (ii)   (2) Only (i) and (iii)   (3) Only (ii), (iii) and (iv)   (4) All are necessary.

Direction (Q.19 & Q.20) : In a certain code language, the codes for some words are as folow.

Words	Codes
NATION	aqvnab
REMOTE	rzqrabe
STAIR	efqnv
FORMAL	bensyz
COMMON	zabzpb
FOR	ebs

19. What is the code for 'SCREEN' ?

(1) febcra   (2) fpersa   (3) fpreba   (4) fperra

20. What is the code for 'RATION' ?

(1) ensvba   (2) engvba   (3) engrba   (4) engvca

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Direction (Q.21 to Q.25) : These questions are based on the following information.

In a certain code language, certain sentences or groups of words which are written under column-I are coded as some group of symbols written under column-II. Find the code for the words and answer the following questions

	Column – I	Column – II
(i)	Pen is only pencil	? # * $
(ii)	erasers are not pen	* £ ! @
(iii)	only sharpners are pen	¥ * # £
(iv)	not only pen paper	@ # © *

21. What is the code for 'pen'?

(1) *   (2) #   (3) £   (4) @

22. What is the code for 'pen only not'?

(1) @ ¥ *   (2) # $ *   (3) @ £ #   (4) * # @

23. What is the code for 'are'?

(1) ¥   (2) *   (3) @   (4) £

24. What is the code for "only pen are eraser"?

(1) * ? ! #   (2) # £ @ !   (3) © ! £ *   (4) # * £ !

25. What is the code for "paper is not pencil"?

(1) $? @ £   (2) © @ ? $ (3) @ © $ ¥   (4) ? @ * ©

ANSWERS

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	2	4	4	4	4	3	2	1	1	3	3	1	3	4	4

Que.	16	17	18	19	20	21	22	23	24	25
Ans.	4	4	4	4	2	1	4	4	4	2

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EXERCISE

QUESTIONS RELATED TO VARIOUS OLYMPIADS

1. According to a certain code, 'min fin bin gin' means 'trains are always late'; 'gin din cin hin' means 'drivers were always punished' 'bin cin vin rin' means 'drivers stopped all trains' and 'din kin fin vin' means 'all passangers were late'. Then 'Drivers were late' would be written as

   (1) min cin din   (2) fin cin din   (3) fin din gin   (4) gin hin min

2. If 'OLYMPICS' is coded as PMZNOHBR, and JUMP is coded as KVLO, then COMPUTER will be coded as

   (1) DPNQVUFS   (2) DPNQTSFQ   (3) DPNQTSDQ   (4) BNLOTSDQ

3. If Moon is called Star, Star is Sun, Sun is Earth, Earth is Jupiter, Jupiter is Mars and Mars is Mercury, where does man live?

   (1) Mars   (2) Jupiter   (3) Earth   (4) Sun

4. If RAB = 36 and MEC = 195, then REG = ?

   (1) 240   (2) 160   (3) 40   (4) 630

5. If the code of SENSITIVE is QHLVGWGYC then what will be the code of MICROSOFT?

   (1) KGAPMQMDT   (2) QKETQUQHV   (3) KLAUMVMIR   (4) LKBTNUNHS

6. RUST = 9-6-8-7 and BOARD = 25-12-26-9-23, how will you code 'BEAT'?

   (1) 25-23-24-7   (2) 25-21-26-7   (3) 25-22-25-7   (4) 25-22-26-7

7. In a certain code 'ring a bell' is written as '5 8 2 ', did not ring' is written as '3 5 9' and 'not a reason' is written as '7 2 9'. What is the code for 'ring'?

   (1) 8   (2) 2   (3) 5   (4) 3

8. If WORK is coded as 4 - 12 - 9 - 16 ,then how will you code WOMAN?

   (1) 4 – 12 –14 – 26 – 13   (2) 4 – 12 –13 – 26 – 14

   (3) 4 – 12 –11 – 26 – 13   (4) 23 – 15 –13 – 1 – 14

ANSWERS

Que.	1	2	3	4	5	6	7	8
Ans.	2	3	2	4	3	4	3	1

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